

Exhibit A

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF OHIO
EASTERN DIVISION

ADELMANS TRUCK PARTS CORPORATION) CASE NO. 5:17-cv-02598
PLAINTIFF,) JUDGE ADAMS
)
v.
JONES TRANSPORT, ET AL.,
DEFENDANTS.

DECLARATION OF RICHARD E. BOWES

I, RICHARD E. BOWES, declare under penalty of perjury as follows:

1. I am employed with Caterpillar Inc. ("Caterpillar") as Engineering Technical Coordinator.
2. I have personal knowledge of the statements set forth in this Declaration.
3. Caterpillar uses a serial number system to identify its engines. That system uses a character alphanumeric identifier as a prefix, *i.e.*, KAL or WAX, followed by a 5 digit serial number, *i.e.*, 12345. After Caterpillar builds engine KAL-99999, there are no more available serial numbers so the factory switches to a new alphanumeric prefix.
4. I am familiar with Caterpillar engines, including the Caterpillar C7 Series of engines having serial numbers with the prefix of KAL or WAX.
5. The KAL prefix C7 engine began production in 2003 and was replaced by the SAP prefix C7 engine in early 2005 only because Caterpillar ran out of assignable serial numbers. The SAP prefix C7 engine was then replaced by the WAX prefix C7 engine in late

2005 for the exact same reason. In other words, the KAL and WAX prefix C7 engines are exactly the same.

6. There is no discernable difference between the way an Engine Control Module (“ECM”) interacts with a KAL prefix C7 engine as compared with a WAX prefix C7 engine.

7. Both models of engine use the same ECM—the ADEM 3 ECM.

8. The ADEM 3 ECM can be programmed with different engine ratings if desired, but the KAL and WAX prefix engines’ ADEM 3 ECM hardware itself is identical.

9. The ADEM 3 ECMS are interchangeable between the engine models so long as the proper software is programmed into the ADEM 3 ECM.

10. All parts used whether for KAL or WAX prefix C7 engines are identical for identical horsepower (“HP”) ratings.

11. To properly increase the HP of a Caterpillar engine to certain levels, regardless of whether the engine was a KAL or WAX prefix C7 engine, certain hardware changes would be necessary because in order to create more HP in an engine more fuel and air must be provided to each cylinder, which creates higher cylinder pressure during combustion.

12. The “Up-rate-ability” chart (the “Chart”), attached hereto as Exhibit 1, includes information regarding both the Caterpillar KAL and WAX prefix C7 engines.

13. The Chart shows that in order to properly increase HP to certain levels, fuel injectors must be changed to provide a higher flow rate so as to provide more fuel.

14. The Chart shows that in order to properly increase HP to certain levels, the turbocharger must be changed to provide increased boost or air for combustion.

15. The Chart shows that in order to increase HP to certain levels, the pistons must be changed to provide a stronger structure for the higher cylinder pressure. For example, as

reflected in the Chart, the 190-210 HP ratings use the 238-2698 Aluminum Piston, whereas any rating from 230 HP and above use the 238-2720 MonoSteel Piston, which provides higher structural integrity to handle increased cylinder pressure.

16. The Chart shows that in order to properly increase HP to certain levels, software changes are necessary to control the interaction of the different components required to achieve the higher HP (*i.e.*, the different fuel injectors, turbochargers, and pistons).

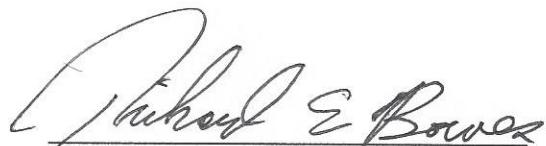
17. Caterpillar C7 engines—including both WAX and KAL prefix C& engines—are parent bore design engines, meaning that the engines' cylinders are machined/bored into the cast iron block. No press-in liners are used.

18. There is a dry sleeve repair kit that can be used to repair a damaged cylinder on a Caterpillar C7 engine if needed.

19. If any C7 engine is run with a broken piston, catastrophic engine damage will likely result.

DECLARANT FURTHER SAYETH NAUGHT.

Date: 11-27-2018



Richard E. Bowes
Richard E. Bowes

Exhibit A

C7 UP RATE - ABILITY AND COMPARISION CHART

KAL / SAP / WAX***	Truck Rating											
	190hp 520 ft lbs		210hp 520 ft lbs		210hp 605 ft lbs		230hp 540 ft lbs		230hp 660 ft lbs		250hp 660 ft lbs	
	2200 / 1440 rpm		2200 / 1440 rpm		2200 / 1440 rpm		2200 / 1440 rpm		2200 / 1440 rpm		2200 / 1440 rpm	
INJECTOR VERSION	Old Inj	New Inj										
INJECTOR PART NUMBER	233-3536*	241-3238*	233-3536*	241-3238*	233-3536*	241-3238*	236-6011*	241-3239*	236-6011*	241-3239*	236-6011*	241-3239*
INJECTOR WITH SEALS	236-0973*	243-4502*	236-0973*	243-4502*	236-0973*	243-4502*	238-9808*	243-4503*	238-9808*	243-4503*	238-9808*	243-4503*
FLASH FILE	247-4649	265-3311	247-4648	265-3312	247-4647	265-3313	247-4646	265-3314	247-4645	265-3315	247-4644	265-3316
INTER-LOCK	1	25	3	26	4	27	18	28	5	29	6	30
REMAN INJ.												
PISTON	238-2698		238-2698		238-2698		238-2720		238-2720		238-2720	
TURBO	A		A		A		A		A		A	
DAMPER	A**											
SMART WASTEGATE	No											

KAL / SAP / WAX***	Truck Rating											
	250hp 800 ft lbs		275hp 800 ft lbs		275hp 860 ft lbs		300hp 800 ft lbs		300hp 860 ft lbs		330hp 860 ft lbs	
	2200 / 1440 rpm		2200 / 1440 rpm		2200 / 1440 rpm		2200 / 1440 rpm		2200 / 1440 rpm		2400 / 1440 rpm	
INJECTOR VERSION	Old Inj	New Inj										
INJECTOR PART NUMBER	233-3535*	238-8091*	233-3535*	238-8091*	233-3535*	238-8091*	233-3535*	238-8091*	233-3535*	238-8091*	238-8091*	238-8091*
INJECTOR WITH SEALS	236-0974*	241-3400*	236-0974*	241-3400*	236-0974*	241-3400*	236-0974*	241-3400*	236-0974*	241-3400*	241-3400*	241-3400*
FLASH FILE	247-4643	265-3334	247-4642	265-3333	247-4640	265-3331	247-4638	265-3329	247-4636	265-3326	247-4633	265-3323
INTER-LOCK	7	41	8	42	9	43	10	44	11	45	12	53
REMAN INJ.												
PISTON	238-2720		238-2720		238-2720		238-2720		238-2720		238-2720	
TURBO	B		B		B		B		B		B	
DAMPER	A**		B**									
SMART WASTEGATE	Yes											

KAL / SAP / WAX***	EMER RAT.		RV RAT.									
	275hp 800 ft lbs		275hp 860 ft lbs		300hp 800 ft lbs		300hp 860 ft lbs		330hp 860 ft lbs		330hp 860 ft lbs	
	2200 / 1440 rpm		2200 / 1440 rpm		2200 / 1440 rpm		2200 / 1440 rpm		2400 / 1440 rpm		2400 / 1440 rpm	
INJECTOR VERSION	Old Inj	New Inj										
INJECTOR PART NUMBER	233-3535*	238-8091*	233-3535*	238-8091*	233-3535*	238-8091*	233-3535*	238-8091*	233-3535*	238-8091*	238-8091*	238-8091*
INJECTOR WITH SEALS	236-0974*	241-3400*	236-0974*	241-3400*	236-0974*	241-3400*	236-0974*	241-3400*	236-0974*	241-3400*	241-3400*	241-3400*
FLASH FILE	247-4641	265-3332	247-4639	265-3330	247-4637	265-3327	247-4635	265-3324	247-4634	265-3322	247-4633	265-3321
INTER-LOCK	12	46	13	47	14	48	15	49	16	50	17	51
REMAN INJ.												
PISTON	238-2720		238-2720		238-2720		238-2720		238-2720		238-2720	
TURBO	B		B		B		B		B		B	
DAMPER	B**											
SMART WASTEGATE	Yes											

Turbocharger Chart	
Low Hp and Mid Hp	A
High Hp	B
	Fld Repl 195-6000
	Fld Repl 228-3228

*Early injector part number must be used with early injector flashfile and new injector part number must be used with new injector flashfile. Refer to SEBD6764 for serial number breaks. Check SIS for latest flashfile. Check injector part number in engine

**All ratings above 250 HP must use a viscous damper. Exception noted for 10" rubber damper used in some Ford applications due to historical space constraints and established load acceptability (with the understanding that Caterpillar does not expressly endorse the use of this rubber damper in any application above 250 HP).

*** KAL1 - 12897 were shipped from the factory with old injectors.

KAL12897- 99999 were shipped from the factory with the new injectors.

SAP1 - UP were shipped from the factory with the new injectors.

WAX1 - UP were shipped from the factory with the new injectors.

Ratings will show last known current part number for "As Shipped" Iron for the particular serial number ranges. Some part numbers can be canceled and replaced by a later version in a different serial number range.

Notify the Truck Engine Call Center at 800-447-4986 for any corrections that may need to be made. Thank You.